

ELECTRONIC INK DISPLAY MEDIA FOR SECURITY AND AUTHENTICATION

Abstract of the Disclosure

An authentication marker comprised of an electrophoretic display medium and at least one electrode is disclosed. A process for creating an authentication marker includes multiple printing operations, similar to a multi-color process in conventional screen printing. Further, an authentication marker may be in electrical communication with a
5 timer or transducer to provide time dependent or environment dependent authentication. The authentication marker can be used in a variety of applications. An authentication marker can be disposed on an object to provide authentication thereof. An authentication marker can be used to label an item to 'authenticate' the quality state of the item or its contents.

10 In addition, the present invention provides a secure document comprised of a substrate, an electrophoretic display medium and at least one electrode or conductive layer. A process for creating a secure document includes multiple printing operations, similar to a multi-color process in conventional screen printing. The secure document operates to hide or obscure a message thereon by means of the electrophoretic display
15 medium.

Further, the present invention provides a smart card comprised of a substrate, an activation device, and an encapsulated electrophoretic display disposed on a surface of the substrate. The activation device provides information to or triggers the encapsulated electrophoretic display to display a message